

A Utah Strategy to Address Water Pollution From Animal Feeding Operations

Prepared by: The Utah CAFO Advisory Committee

Introduction and Background

The purpose of this strategy is to outline a process to achieve the goal of addressing existing manure management problems and water quality impacts in a manner that is most appropriate for each operator affected, and which can be implemented with reasonable cost and within reasonable time frames. Voluntary incentive-based approaches will be emphasized, so that other regulatory methods are used only for the largest facilities or where voluntary methods, over time, fail to solve pollution problems. It is important that long term goals and targets be established so everyone can work within those time frames to solve their problems in cost effective ways, such that the sustainability of Utah agriculture can be promoted.

Based upon of water quality monitoring studies and other studies that have been conducted over the years, it has been determined that there are a number of Utah waters which do not meet water quality standards. There are many causes for these water quality impairments, but one source is runoff or other discharges from animal feeding operations. Considerable attention has been given on this issue recently, as evidenced by the recent issuance of a national unified animal feeding operation (AFO) strategy by the Environmental Protection Agency (EPA) and the U. S. Department of Agriculture (USDA).

A State of Utah strategy is important to determine what approach is best for the agencies and producers in Utah to use in addressing this issue. The unified federal strategy is important and is a useful guide to what might be appropriate for Utah, but we also realize that Utah is unique in many respects and the agricultural producers in Utah need to manage animal manure problems in a manner and time frame that is most appropriate here. Our goals are:

To restore and protect the quality of our water for beneficial uses;
Maintain a viable and sustainable agricultural industry and;
To keep the decision making process on these issues at the state and local level.

Definitions

The term “animal feeding operation” (AFO) is defined in the Code of Federal Regulations 40 CFR 122.23 (b)(1) as a lot or facility where animals “have been, are or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12 month period and crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.”

An AFO is a “concentrated animal feeding operation” or CAFO if it meets the regulatory definition of CAFO or if it is designated as a CAFO. A CAFO is defined in 40 CFR 122.23 appendix B as “an animal feeding operation where more than 1,000 ‘animal units’ (as defined by the regulation) are confined at the facility; or more than 300 animal units are confined at the facility and either one of the following conditions are met: pollutants are discharged into navigable waters through a man-made ditch, flushing system or other similar man-made device; or pollutants are discharged directly into waters of the United States which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.”

In addition, the NPDES permit issuing agency may, after conducting an on-site inspection, designate an animal feeding operation of any size as a CAFO based on a finding that the facility “is a significant contributor of pollution to waters of the United States.” A facility with 300 animal units or less, however, may not be designated as a CAFO under this authority unless pollutants are discharged from a man-made conveyance or are discharged directly into waters passing over, across or through the facility or that otherwise come into direct contact with the confined animals [40 CFR 122.23 (2)].

The regulations also provide that no animal feeding operation is a CAFO under the regulatory definition if it discharges only in the event of a 25-year, 24-hour or larger storm event.

A joint federal AFO/CAFO strategy has been developed and issued by EPA and USDA. That strategy calls for a general permit for CAFO's over 1000 animal units, but allows some flexibility by states to operate functionally equivalent programs. As per this strategy the State of Utah intends to issue permits to these large operations by January 2001. EPA also intends to revise their NPDES regulations to implement the federal strategy. We believe this state strategy to be functionally equivalent to the federal strategy.

This strategy has been developed by a CAFO Advisory Committee (Attachment I) comprised of representatives of agricultural commodity groups and other farm organizations, state and federal agencies, and other interested parties.

Utah Strategy

The key elements to address water pollution issues related to AFO's include:

Information, education and training, research and demonstrations;
Prioritization of watersheds impaired by pollutants associated with animal manure;
Assessment of AFO's and CAFO's within those priority areas to determine which may be sources of pollution and identified as potential CAFO's;

Permitting goals and objectives;
Compliance milestones;
Permit development;
Testing, record keeping, and monitoring;
Schedules and;
Resources.

Information/education/training

There must be a significant effort to provide information to the agricultural community concerning several issues including, but not limited to:

- definitions of CAFO/AFO and CNMP
- current and proposed regulatory requirements
- what is acceptable and what is not
- methods to implement a CNMP and properly control animal wastes
- time frames available to solve problems
- funding sources and availability of technical assistance
- highlight good examples
- overall program / strategy goals and expectations

This effort must be cooperative including the involved governmental agencies as well as commodity groups to facilitate the flow of information. Farmer to farmer communication should be considered an important part of the information education component.

Many agencies and other groups are and will be involved in information and education for the agricultural community. For example, the Utah Association of Conservation Districts (UACD) has a statewide water quality specialist assigned to help the local districts more effectively deal with water quality issues. They have adopted a clean water strategy that will assist Utah's soil conservation districts to be proactive in providing local leadership to assist private landowners to reduce nonpoint source pollution.

The Utah Farm Bureau Federation has hired an on-farm assessment specialist to help producers evaluate their operations, identify solutions and implement improvements where needed.

An Education Committee has been formed to prepare an education plan and associated materials. The Education Committee includes the following groups: USU Extension Service (Chair), UDAF, UACD, NRCS, and DEQ. Workshops are being provided at various locations around the state to help producers understand the strategy, identify on-farm problems, identify technical and financial assistance and implement corrective actions where needed.

Research/Demonstration Projects. Ways need to be found to make animal manure a more useful resource. One idea being pursued in Cache Valley is a regional composting

facility. Other areas deserving further attention include land application at proper agronomic rates, and the use of manure as an energy source.

Prioritize Watersheds

Because resources are limited, focus should be on areas where there are the most severe water quality problems, where the number of animal manure problems are the greatest, and where the most can be accomplished for the resource investment. The state's 303(d) list and the Unified Watershed Assessment will be the beginning point to identify watersheds with significant problems, as well as data from other agencies indicating areas that should be high priority for initial action. Those involved in selecting priority areas include the Division of Water Quality (DWQ), State Department of Agriculture and Food, Natural Resources Conservation Service (NRCS), USU Extension Service, producer groups such as Dairymen's Association, Farm Bureau, Poultry Association, Cattlemen's Association, Utah Association of Conservation Districts, local soil conservation districts, and others as appropriate.

Assessment of On-farm Conditions

Before any formal assessment is undertaken, producers in the State will be contacted to inform them of this effort. It is projected that all large operations (1000 au's or more) will initially be identified throughout the state. Also, an assessment of AFO's will be conducted first within the geographic areas that are identified as high priority, and then within the rest of the state. This assessment will focus on large operations and those that are or may be significant contributors of pollution. This would include all operations with greater than 300 animal units, and any other operations immediately adjacent to streams or other water bodies. The assessment may include location, types of animals, number of animals, proximity to nearest water body, potential pollution loading, receiving water, waste storage type and capacity, type of confinement, age of facility, etc. Producers would be notified of their status and what resources are available to assist them to take appropriate steps to address any issues that exist on their operation.

A subcommittee has been formed to develop a plan (Attachment II) for conducting the assessment. Membership of this subcommittee includes UACD (Chair), Dairymen's Association, Poultry Producers, Pork Producers, Cattlemen's Association, Farm Bureau, UDAF, DEQ, and NRCS. This assessment will be carried out using Section 319 funding. Producer groups and SCD's will be asked to assist with this assessment. On-farm assessors will receive training so they can all consistently identify unacceptable conditions that would make an operation a potential CAFO. They will also receive training in how to sell the Utah strategy and the importance of proper manure management. Their training will include gaining information on technical and financial resources to help producers. The assessment will include the severity of any water quality problems that may exist. In some cases, inspection of facilities that may be significant sources of pollution will be scheduled and conducted later. The overall goal

will be to update the assessment every five years, which could coincide with the watershed monitoring and planning cycle of the DWQ Watershed Approach, as resources allow.

The assessment will be completed according to the subcommittee's workplan within a period of two years. It is important that all potentially significant sources of pollution be identified for the program to be successful. The assessment will gather enough information to determine whether a facility may be a CAFO potential CAFO, or an AFO.

Those facilities identified in the initial assessments as having the greatest potential of pollution will be notified of the need for action and notified of technical and financial assistance that is available. Time frames should be roughly consistent with the joint federal strategy; however, some modifications may be necessary for the Utah situation. Up to five years will be allowed, after which designation as a CAFO would follow if problems are not resolved. It is proposed that each plan would be tailored to the individual producer, but in general, up to two years would be the time frame to complete a plan to correct unacceptable conditions and up to three years after the plan is prepared to implement the plan.

Permitting Goals and Objectives

It has been mentioned that all of the larger CAFO's (>1000 au's) and some of the smaller operations with specified conditions will be required to obtain a Utah Pollutant Discharge Elimination (UPDES) Permit. The primary impetus for the issuance of these permits is to require good management practices and the development of a CNMP at the operations fitting the definition of a CAFO (Utah Administrative Code, UAC R317-8-3.5). The State recognizes that many of these operations are already operating with good environmental practices, however, it is still necessary to issue permits to all of the facilities fitting the definition of a CAFO in order to ensure that equality for all operations of this type has been established.

The permitting system will include provisions for enforcement response at facilities that are not in compliance with the State rules and regulations. The major objective of the enforcement response is to serve as a deterrent to negligent facilities for continuing an illegal procedure as well as removing any economic benefit for non-compliance. Failure to undertake the necessary provisions to be in compliance must be penalized in order to maintain a level playing field and give credence to those facilities that act in compliance with State and Federal law.

Another element of the permitting system is the maintenance of documentation. The permit outlines requirements for compliance with State rules, including onsite documents which must be maintained, and required submission of documentation to the DWQ. Also, any documentation prepared in association with permitting requirements is public information.

National estimates, as documented in the “Joint Strategy”, are that only 5 percent of AFO's will be designated as CAFO's and be required to enter the regulatory system. If this is the case there will need to be extensive support from local resources (agricultural groups, Soil Conservation Districts, Extension Service, etc.) to support the voluntary program. It is hoped that these same local agencies will assist with the regulatory program in inspections and CAFO designation as well as sharing information and building a solid program. Facilities less than 1,000 au's can avoid a regulatory, permitting program entirely by voluntarily bringing their operations into compliance with State and federal rules. The Utah strategy emphasizes this voluntary compliance option and will provide time and technical assistance to accomplish it.

For some large non-discharging CAFO's in Utah, the Division of Water Quality has already issued ground water discharge permits. These are considered to be functionally equivalent to a UPDES permit, and are more comprehensive and protective than a UPDES permit would be. Therefore, when a groundwater permit is in place, an additional separate UPDES permit may not be required.

Response to complaints would continue to be handled as per the current procedure. If a complaint is received with respect to an AFO, the individual producer would be contacted by the local health department or DEQ to determine the validity of the complaint. In the case of a serious problem, the agricultural partners (UDAF, DEQ, local health department, NRCS, a local soil conservation district representative, and UACD) would make a joint site inspection. If unacceptable conditions are found to exist, voluntary cooperation and correction would be sought from the producer, and a time frame would be given for correction. A follow up inspection would be made by the local health department, agriculture partners or DEQ to determine that the problem is either being corrected or that the agreed time frame for compliance is being met. If problems are not corrected within a reasonable amount of time, a notice of violation may be issued by DWQ. If there is a complaint on a facility that is permitted under an existing permit, a site visit would be conducted as described above. If a discharge is occurring in violation of the permit, a notice of violation would be issued by DWQ.

Compliance Milestones

All large operations, except as stated above (greater than 1000 au's), will be required to maintain a general UPDES permit coverage. These operations are considered under the federal strategy to be a significant risk of pollution based on size alone. These permits would not have specific numeric effluent limits, but would require the implementation of a CNMP and prohibit any discharge of manure to waters of the State except in the event of a 25-year 24-hour storm event. For large facilities, or in water source protection areas, ground water permits and/or construction permits could also be required.

Other facilities, between 300 and 1000 au's, which are significant potential sources of pollution, or smaller if there is a direct discharge (potential CAFO's as determined in the assessment process) would be so notified. These facilities would be given a time frame

from the time of notification (two years) to prepare a plan to properly manage their animal manure. Then up to another three years will be provided to implement that plan and eliminate the potential for water pollution. This would provide time for the producer to take advantage of voluntary non-regulatory means to prepare and implement appropriate practices to correct unacceptable conditions. If these milestones are not met, then a more formal compliance program would be initiated via an individual permit or a general discharge permit coverage.

Immediate compliance action may be necessary when severe pollution problems exist anywhere in the State. These would include facilities with current discharges of wastewater to waters of the State. These operations would currently be in violation of the Clean Water Act and would be a high priority resolve their problems. Such action would be especially warranted where there have been problems over a long period of time or where there has been a failure to utilize assistance from available programs. The issuance of a Notice of Violation should be a last resort because if formal enforcement action is taken, that facility may become ineligible for most forms of federal government financial assistance, including 319 and EQIP.

AFO's will be encouraged to complete CNMP's under a voluntary program, as outlined in the federal strategy. CAFO's will be required to complete and implement CNMP's.

Permit Development

The Utah State CAFO permit will be based upon the Federal effluent guidelines as established in 40 CFR. EPA has committed to produce a sample permit. The general provisions will require development of a CNMP and regulation of land application (nutrient balance).

Public notice of the preparation of the draft general permit will allow at least 30 days for public comment. The draft permit will be submitted for public notice after it has undergone review by the CAFO committee and internal review by the Division of Water Quality. The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft UPDES permit. The main purpose of the public notice is to ensure that all parties have the ability to comment on the actions of the permitting agency.

An individual permit is specifically tailored for a single facility. Upon submitting the appropriate applications, the permitting authority develops a permit for that particular operation based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). A general permit is developed and issued to cover numerous similar operations. General permits are a cost-effective option for agencies because of the large number of operations that can be covered under a single permit. Facilities would be required to submit a brief "Notice of Intent" application to the Division if they wish to obtain coverage under the general permit. The facility would then need to be in compliance with the permit conditions in order for the permit coverage

to be authorized. These permits can be issued quicker and with less expense than an individual permit.

The initial round of permits to large operations may be covered under a general permit or may require individual permits. It is anticipated that general permits will comprise the vast majority of permits issued. This would depend on the historical compliance of the facility as well as significant environmental concerns that the DWQ may have with a given operation. Individual permits would include specific compliance schedules to address problems at a specific location. Individual permits may also be issued to facilities smaller than 1,000 au's in an impaired watershed.

All CAFO permits issued in Utah will be consistent with Clean Water Act requirements. Utah will try to issue permits addressing the concerns of the joint strategy within the constraints of these requirements

Testing, Record Keeping, and Monitoring (CNMP's)

There are various types of monitoring which could be applied to CAFO's. First, the producer should conduct certain testing under the CNMP to document and verify that the nutrient management plan is successful. This would include periodic testing of manure for nitrogen and phosphorous, as well as similar testing of the soils where manure is applied. Testing of manure should occur yearly until average values can be obtained, and testing of soil at least every five years for perennial crops or yearly for annual crops. The producer should also keep records of the amounts of manure produced and applied to the land.

Secondly, the cooperating agencies will conduct periodic follow-up reviews to verify that the CNMP is being implemented and to provide assistance as appropriate. Regular reporting by the producer to a government agency would not be required unless a producer comes under a formal discharge permit.

Thirdly, DEQ may monitor adjacent surface waters to verify and document any improvement in the quality of those waters resulting from implementation of manure management practices. Under the DWQ's watershed monitoring program, each watershed in the state will be monitored intensively every five years.

Implementation Schedule

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| Plan and implement additional outreach | |
| training and technical assistance- | Fall 1999 to spring 2000 |
| Complete prioritization of watersheds - | May 2000 |
| Training of AFO/CAFO Assessors- | May 2000 |
| Final CNMP Guidance- | June 2000 |
| Final General Permit- | July 2000 |

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| Develop large CAFO permittee list- | July 2000 |
| Assessment of large AFO/CAFO's (larger than 1000 au's) - | January 2000 to December 2000 |
| Round I UPDES permits issued as required for large CAFO's - | January 2001 |
| Assessment of other AFO's- | January 2000 to August 2002 |

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| Planning to correct unacceptable conditions- | January 2000 and ongoing |
| Round II UPDES permits issued as needed- | January 2005 and ongoing |

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| Completion of implementation activities to correct unacceptable conditions- | June 2007 |
| Implement correction of unacceptable conditions in other watersheds - | December 2008 |
| Initiate compliance activities as necessary - | ongoing |

Overall schedule to prepare and implement CNMP's throughout the entire state will be approximately 12 years to coincide with the TMDL schedule.

Implementation Resources

The resources needed to implement this strategy in Utah is a major issue, both for the producer as well as administrative agencies. Sufficient time must be provided for producers to determine and implement solutions to any problems, resulting in the most cost effective and protective solutions to assure the continued economic viability of the producers. The resources of administering agencies to provide education and technical assistance is limited, and the time frames for assessing, developing CNMP's, and providing assistance to develop those plans, must be such to recognize those available resources. Because of the administrative burden of issuing and administering UPDES discharge permits, as well as in recognition of the burden placed on permittees, the strategy is structured to minimize the number of permits which might need to be issued, and the number of producers under such permits. The resources of not only the state and federal agencies are important, but many other groups should assist in this program, especially in education and helping to develop CNMP's.

A major concern has been the ability of NRCS or others to assist in correcting unacceptable conditions and in preparing the many CNMP's that will be needed. One solution to this dilemma may be to provide training to others, including producers themselves, in the preparation of such plans and allow producers themselves to prepare plans, which could then be reviewed by NRCS and others. This type of streamlining will be needed even to meet the time frames outlined above. In addition, at least one year will be needed to develop training programs and criteria and provide training of specialists.